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## How to Clean Milking Machine Vacuum Lines

S. M. Gregory

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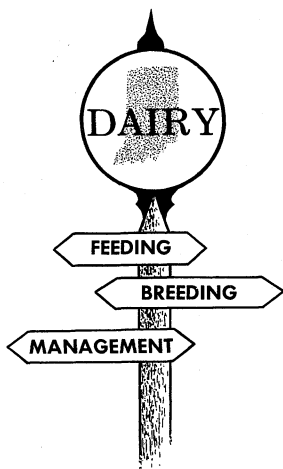
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## How to clean milking machine vacuum lines

S. M. Gregory, Extension Dairyman

Clean vacuum lines are essential for proper operation of milking machine units and for sanitary production of milk. The lines become clogged with rust, dirt and half-dried or fermented milk. These cause faulty machine operation, corrosion of the pipe, and possible contamination.

Clogged or leaky lines will also reduce the operating vacuum level, which results in a slow recovery rate when machine units are changed from one cow to the next. Both effects result in longer milking time per cow, thus increasing chances for udder injury, which may lead to mastitis.

Clean vacuum lines are essential in operations where milk-o-meters are used. Partially clogged lines, plus the vacuum requirements of the milk-o-meter reduce the efficiency of milking units. Under these circumstances, the vacuum supply may be inadequate

Corrosion and/or clogging in vacuum lines develops gradually. So, changes in milking machine efficiency may not be noticed until the lines are almost fully clogged. Therefore, a definite time schedule for cleaning the lines should be established. Cleaning of vacuum lines at least once a month is recommended. In addition, if milk is accidentally drawn into lines by upset or overfilled milkers, they should be cleaned immediately after that milking.

### Equipment needed for cleaning:

1. Stanchion hose
2. Household lye or special washing

powder recommended by manufacturer for this purpose.

3. Plastic bucket and hot water
4. Wooden paddle (to mix cleaning solution)

### Method:

1. Remove and thoroughly clean the sanitary trap; replace in the line.
2. Make up two gallons of cleaning solution. Use one of the following:
  - (a) Dissolve half of a 13-ounce can of household lye in two gallons of hot water.
  - (b) Dissolve special washing powder in two gallons of hot water. Follow manufacturer's recommendations for the correct amount to use.
3. Start vacuum pump.
4. Draw one gallon of the cleaning solution into the stall cock nearest the pump. Recover the cleaning solution from the sanitary trap after the full two gallons have been drawn up.
5. Repeat step 4, going from the stall cock nearest the pump to the second, third, fourth, etc, to the end of the line. When the solution becomes dirty, discard it and make up a new one.
6. After the cleaning solution has been

drawn through each stall cock, rinse the vacuum line by drawing half a pail of clean, hot water through each stall cock, starting at the stall cock farthest from the pump.

7. After rinsing, drain the line and stall cocks thoroughly. Leave the pump operating, with the last stall cock or drain plug open, for at least five minutes to aid drying.

Precautions:

Cleaning vacuum lines is not difficult, expensive, nor does it take much time. However, some precautions are necessary.

1. Never draw more cleaning solution or rinse water into the lines than the sanitary trap will hold. If the trap is overfilled, the solution will be drawn into the pump. A safe practice is to empty the trap after each two gallons of cleaning solution or rinse

water has been drawn through the lines.

2. Make certain that ample rinse water is used after the cleaning solution. Unless the cleaning solution is completely rinsed from the lines, it will corrode the pipe.
3. Do not use galvanized or aluminum pails for lye solutions because they will corrode. Plastic, stainless steel, or enameled containers are suitable.
4. Do not fail to clean both the inside and outside of the air and milk hoses after each milking period.

Vacuum pumps need attention too!!

Pumps wear out, some are undersized for present equipment, and there is voltage loss from electric lines as more and larger electrical equipment is added on the power lines.